

Sub
A1

1. A system for automatically controlling the build-up of material on a
2 substrate, comprising:
 - 4 a controllable semiconductor diode laser having a beam directed to a localized
6 region of the substrate so as to form a melt pool thereon;
8 a material feeder for feeding material into the melt pool to be melted by the beam
10 to create a deposit having a physical attribute;
an optoelectric sensor operative to output an electrical signal as a function of the
physical attribute; and
a feedback controller operative to automatically adjust the rate of material
deposition as a function of the electric signal.

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